REMARKS

In the present Amendment, the specification has been amended to update the status of U.S. Application No. 10/111,132, now U.S. Patent 6,797,391 B2.

The abstract has been amended to include the presently claimed invention and to correct typographical errors.

Claims 10, 11, 14, 20 and 21 have been amended for clarity and/or to improve their form.

Claims 1-9 were previously canceled.

No new matter has been added and entry of the Amendment is respectfully requested. Upon entry of the Amendment, claims 10-21 will be all the claims pending in the application.

I. Response to Objection to Specification

The specification is objected to for informalities.

In response, the specification including the abstract has been amended as suggested by the Examiner. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the objection.

II. Response to Claim Objection

Claims 11-13 and 20 are objected to because of "informalities."

In response, claims 11 and 20 have been amended as suggested by the Examiner. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the objection.

III. Response to Rejection Under 35 U.S.C. § 112

Claims 10-21 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

In response, claims 10, 20 and 21 have been amended as suggested by the Examiner. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejection.

IV. Response to Double Patenting Rejection

Claims 10, 11 and 13-19 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1, 4-7 and 9-15 of U.S. Patent No. 6,797,391.

Applicants submit herewith a Terminal Disclaimer. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the double patenting rejection.

V. Response to Rejections Under 35 U.S.C. §102

a. Claims 10-21 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Yamamoto et al (USP 6,103,387).

Applicants respectfully submit that the present claims are novel over Yamamoto et al for at least the following reasons.

Yamamoto discloses a thermosetting composition comprising (A) a resin, (B) a curing agent and (C) a dispersing component (col. 3, lines 54-57). Yamamoto further describes that ingredient (A) has two or more specific functional groups, and that ingredient (B) has two or

more reactive functional groups which can form chemical bonds with the regenerated carboxyl group formed from the blocked carboxyl group of the compound (A) (col. 6, lines 26-60; col. 10, lines 61-67).

However, Yamamoto does not disclose, at least in the portions relied upon by the Examiner, that "Component (B) can be prepared by polymerizing monomer mixture comprising epoxy containing monomers, hydroxy-containing monomers ... in the presence of a non-polymerizable alkoxysilane of formula (4)," contrary to the Examiner's assertion (page 5, lines 3-6 of the Office Action).

Yamamoto describes that compound (B) preferably contains, for storage stability, a combination of a functional group selected from the group of an epoxy group, an isocyanate group, a vinyl ether group, a vinyl thioether group, a cyclocarbonate group and a silanol group with an amino group or an imino group, a combination of a hydroxyl group with an isocyanate group or a vinyl ether group and the like other combinations (col. 13, lines 24-40).

However, Yamamoto does not disclose a compound obtained by polymerizing an epoxy-containing monomer and a hydroxy-containing monomer, let alone a compound obtained by polymerizing an epoxy-containing monomer and a hydroxy-containing monomer in the presence of a non-radical polymerizable alkoxysilane of formula (4) as recited in the present claims.

Accordingly, component (B) described in Yamamoto does not meet the requirements of a modified resin (F') recited in the present claims.

In addition, the Examiner apparently relies on the description of Yamamoto that compound (B) may be polyvinyl ethers prepared by the reaction of hydroxyalkyl vinyl ethers

with compounds having a polyfunctional carboxyl group (col. 12, lines 32-34), as disclosing component (C) of the present invention.

However, the above mentioned compounds having a polyfunctional carboxyl group are used in preparation of component (B) of Yamamoto, rather than in a composition containing component (B). For this reason, Yamamoto does not disclose a composition containing component (B) and a compound having a polyfunctional carboxyl group as required in present claim 11.

Yamamoto describes another coating composition comprising (A') an acrylic polyol resin and/or a polyester polyol resin, (B') one or more compounds selected from the group consisting of a polyisocyanate compound having two or more isocyanate groups per molecule, a polyblocked isocyanate compound having two or more blocked isocyanate groups per molecule and an aminoplast resin, and (C) a dispersing component of at least one inorganic oxide sol selected from the group consisting of an aluminum oxide sol, a silica sol, a zirconium oxide sol and an antimony oxide sol (col. 25, lines 49-59).

Further, Yamamoto describes that ingredient (A') may be prepared by copolymerizing essentially (a) a (meth) acrylic acid ester of an alkyl alcohol of 1 to 12 carbon atoms, (b) a polymerizable double bond-containing and hydroxyl group-containing monomer and (c) a polymerizable double bond-containing and carboxyl group-containing monomer, and optionally (d) styrene, (e) acrylonitrile and (f) other polymerizable double bond-containing monomer, wherein component (f) may be, among many others, 3,4-epoxycyclohexylmethylmethacrylate or

3,4-epoxycyclohexylmethylacrylate (col. 26, lines 1-8; col. 28, lines 9-28, in particular, lines 12-14).

However, Yamamoto does not specifically disclose an ingredient (A') obtained by using an epoxy group-containing compound. None of the working examples described in Yamamoto contain such ingredient. Further, the modified resin (F') of the present invention is not a polyester polyol resin. Therefore, Yamamoto does not disclose with specificity the present invention.

Moreover, the Examiner concedes that Yamamoto does not disclose polymerization in the presence of component (C) (page 5, lines 4-5 from the bottom of the Office Action). However, the Examiner appears to consider that the polymerization with or without component (C) would inherently result in the same or similar product.

Applicants respectfully disagree. In the polymerization in the presence of component (C), silane group(s) contained in component (C) react with hydroxyl group(s) of the hydroxyl group-containing radical polymerizable monomer, and thus are incorporated in the final product. Therefore, polymerization reactions with and without component (C) would result in different products.

In view of the foregoing, Applicants respectfully submit that the present claims are not anticipated by Yamamoto and thus the rejection should be withdrawn.

b. Claims 10-21 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Nambu (EP 1013730) ("Nambu").

Applicants respectfully submit that the present claims are novel over Nambu for at least the following reasons.

Nambu discloses a curable composition comprising: (A) a resin (A-1) obtained by mixing an epoxy group-containing compound (x) component and a carboxyl group-containing compound (y) component and/or a resin (A-2) based on an epoxy group-containing and carboxyl group-containing vinyl copolymer (z) component; (B) a vinyl copolymer containing at least one specific hydrolyzable silyl group bound to a carbon atom; and (C) a specific silicon compound (Abstract).

Nambu further describes that component (x) may be prepared from a hydroxy group-containing vinyl monomer, an epoxy group-containing vinyl monomer and another copolymerizable vinyl monomer, for example, by solution polymerization using a radical initiator (col. 7, lines 35-42).

Nambu specifies that "the epoxy group-containing compound (x) component as so referred to in the present specification does not have, within the molecule thereof, any hydrolyzable silyl group bound to a carbon atom as represented by the above general formula (I)" (col. 4, lines 54-58). Therefore, compound (x) of Nambu is not prepared in the presence of a non-radical polymerizable organosilicate, and thus does not meet the requirements of resin (F') in the present invention.

Nambu further describes that component (y) preferably contains two or more carboxyl groups, at least two epoxy groups and at least one hydroxy group, and may be prepared by radical-polymerization (col. 3, lines 20-26; col. 8, lines 24-39). However, Nambu does not

disclose or exemplify the use of a non-radical polymerizable organosilicate during the preparation of component (y). Therefore, component (y) of Nambu does not meet the requirements of resin (F') in the present invention.

Moreover, component (z) of Nambu does not meet the requirements of resin (F') in the present invention, because it does not contain a hydroxy group, let alone a hydroxy group and a silyl group.

Furthermore, component (B) of Nambu does not meet the requirements of resin (F') in the present invention, because it does not contain an epoxy group. Nambu describes that component (B) may contain a hydroxy group (col. 14, lines 63-64).

In view of the above, Nambu does not disclose or suggest a compound corresponding to the resin (F') of the present invention.

In addition, the present invention provides unexpectedly superior properties of paint film by containing the specific resin (F'). In particular, as shown in the present specification, Comparative Example 3, which contains an acrylic resin of component (D) and silicate of component (C), and not the modified resin (F') of the present invention (Table 8 at page 69), is inferior in terms of weather resistance and water resistance, as compared to the inventive examples.

In view of the foregoing, Applicants respectfully submit that the present claims are not anticipated or rendered obvious by Nambu, and thus the rejection should be withdrawn.

c. Claims 10-15 and 18-21 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by JP 11-116847 ("JP '847").

Applicants respectfully submit that the present claims are novel over JP '847 for at least the following reasons.

JP '847 discloses a topcoating composition comprising a resin (A) and a specific organosilicate compound (B) (Abstract). JP '847 further discloses that the resin (A) may be prepared by copolymerizing a hydroxyl group-containing monomer (a) and other polymerizable vinyl monomers (b) such as an epoxy group-containing vinyl compound (Paragraph Nos. [0028]-[0030]).

As the Examiner concedes, JP '847 does not disclose preparation of resin (A) by polymerization in the presence of component (C) of the present invention. As set forth above, polymerization reactions with and without component (C) would result in different products. Therefore, the resin (A) of JP '847 does not meet the requirements of resin (F') in the present invention. That is, JP '847 does not disclose or suggest a compound corresponding to the resin (F') of the present invention.

In addition, the present invention provides unexpectedly superior properties of paint film by containing the specific resin (F'). In particular, as shown in the present specification, Comparative Example 3, which contains an acrylic resin of component (D) and silicate of component (C), and not the modified resin (F') of the present invention (Table 8 at page 69), is inferior in terms of weather resistance and water resistance, as compared to the inventive examples.

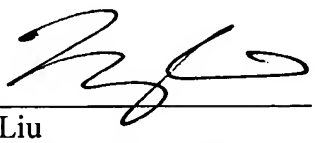
In view of the foregoing, Applicants respectfully submit that the present claims are not anticipated or rendered obvious by JP '847, and thus the rejection should be withdrawn.

VI. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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